ABSTRACT

Disclosed is a method of manufacturing a semiconductor device. An atomic dopant having a large atomic weight and made of monoatomic is implanted to form an ion implantation layer, instead of using a dopant of a small atomic weight such as B or a molecular ion such as a BF_2 which has been usually employed, in case that the ion implantation layer is formed in order to control the threshold voltage of the semiconductor device. Therefore, in an annealing process for mitigating damage caused by ion implantation, it is possible to prohibit by maximum generation of a TED (transient enhanced diffusion) phenomenon of a dopant and prevent degradation of the film quality due to outgasing.